POWERPLANT CONTROLS AND ACCESSORIES

§ 23.1141 Powerplant controls: General.

(a) Powerplant controls must be located and arranged under § 23.777 and marked under § 23.1555(a).

(b) Each flexible control must be shown to be suitable for the particular application.

(c) Each control must be able to maintain any necessary position without—

(1) Constant attention by flight crew members; or

(2) Tendency to creep due to control loads or vibration.

(d) Each control must be able to withstand operating loads without failure or excessive deflection.

(e) For turbine engine powered airplanes, no single failure or malfunction, or probable combination thereof, in any powerplant control system may cause the failure of any powerplant function necessary for safety.

(f) The portion of each powerplant control located in the engine compartment that is required to be operated in the event of fire must be at least fire resistant.

(g) Powerplant valve controls located in the cockpit must have—

(1) For manual valves, positive stops or in the case of fuel valves suitable index provisions, in the open and closed position; and

(2) For power-assisted valves, a means to indicate to the flight crew when the valve—

(i) Is in the fully open or fully closed position; or

(ii) Is moving between the fully open and fully closed position.

[Doc. No. 4080, 29 FR 17955, Dec. 18, 1964, as amended by Amdt. 23–7, 34 FR 13095, Aug. 13, 1969; Amdt. 23–14, 38 FR 31823, Nov. 19, 1973; Amdt. 23–18, 42 FR 15042, Mar. 17, 1977; Amdt. 23–51, 61 FR 5137, Feb. 9, 1996]

§ 23.1142 Auxiliary power unit controls.

Means must be provided on the flight deck for the starting, stopping, monitoring, and emergency shutdown of each installed auxiliary power unit.

[Doc. No. 26344, 58 FR 18974, Apr. 9, 1993]

§ 23.1143 Engine controls.

(a) There must be a separate power or thrust control for each engine and a separate control for each supercharger that requires a control.

(b) Power, thrust, and supercharger controls must be arranged to allow—

(1) Separate control of each engine and each supercharger; and

(2) Simultaneous control of all engines and all superchargers.

(c) Each power, thrust, or supercharger control must give a positive and immediate responsive means of controlling its engine or supercharger.

(d) The power, thrust, or supercharger controls for each engine or supercharger must be independent of those for every other engine or supercharger.

(e) For each fluid injection (other than fuel) system and its controls not provided and approved as part of the engine, the applicant must show that the flow of the injection fluid is adequately controlled.

(f) If a power, thrust, or a fuel control (other than a mixture control) incorporates a fuel shutoff feature, the control must have a means to prevent the inadvertent movement of the control into the off position. The means must—

(1) Have a positive lock or stop at the idle position; and

(2) Require a separate and distinct operation to place the control in the shutoff position.

(g) For reciprocating single-engine airplanes, each power or thrust control must be designed so that if the control separates at the engine fuel metering device, the airplane is capable of continued safe flight and landing.

[Amdt. 23–7, 34 FR 13095, Aug. 13, 1969, as amended by Amdt. 23–17, 41 FR 55465, Dec. 20, 1976; Amdt. 23–29, 49 FR 6847, Feb. 23, 1984; Amdt. 23–43, 58 FR 18974, Apr. 9, 1993; Amdt. 23–51, 61 FR 5137, Feb. 9, 1996]

§ 23.1145 Ignition switches.

(a) Ignition switches must control and shut off each ignition circuit on each engine.

(b) There must be means to quickly shut off all ignition on multiengine airplanes by the grouping of switches or by a master ignition control.